

ON THE TYPE LOCALITY OF CERTAIN FLIES DESCRIBED BY MACQUART
IN "DIPTÈRES EXOTIQUES," SUPPLEMENT FOUR.

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About one hundred and forty species of Australian flies are described by Macquart in the fourth supplement of his *Diptères Exotiques*, the type locality being given there as Tasmania. The collecting of this material is credited to the Verreaux Brothers as is definitely stated in two places:

"De la Tasmanie, ou terre de Diemen, il a été envoyé au Muséum d'histoire naturelle de Paris, par les frères Verreaux, voyageurs de cet établissement, une collection considérable d'insectes, parmi lesquels les Diptères présentent un assez grand nombre d'espèces nouvelles qui nous ont été également communiquées." (Macquart, *Mém. Soc. Roy. Agric. et Arts, Lille*, 1846 (1844); *Dipt. Exot.*, suppl. 1, 1846, p. 6).

"Enfin, MM. Verreaux, voyageurs du Jardin du Roi, en envoyèrent un grand nombre de la Tasmanie.

"Les lieux où ont été recueillis particulièrement les Diptères que nous avons décrits sont: dans la Nouvelle Hollande, le port du Roi Georges, l'île des Kanguroos, la baie de Jervis, l'île King, la ville de Sydney et le Port Jackson; dans la Tasmanie, Hobart-Town." (Macquart, *Dipt. Exot.*, suppl. 2, 1847, p. 6.)

From this second statement, it would appear that the Verreaux Brothers covered the south coast of Australia, up the east coast as far as Sydney, and that they were in Hobart, Tasmania. There is no definite evidence as to how these collectors treated their material, but, as is to be detailed below, it is very evident that their localities became confused.

I have brought together all the information I can secure concerning these Verreaux Brothers, and most of this is gleaned from papers by the late J. H. Maiden, this author apparently being unaware that there were two brothers operating under that name.

There is a book, "L'Océanie en Estampes," 1832, by Jules and Edouard Verreaux, a copy of which is in the Mitchell Library. As far as I can gather from the few minutes I was able to examine the publication, it is a translation into French of subjects taken from Cook's voyages.

In "Colonial Wools" (Southey, 1851, p. 199—I have not seen this work—see Maiden, *Journ. Roy. Soc. N. S. Wales*, lv, 1921, 168), it would appear that Jules Verreaux had at that date (1851) but recently returned to Paris with his large collections. Nevertheless, judging from the date of Macquart's fourth supplement, several years must have elapsed between the event Southey referred to and the date of his publication, for Macquart published on the material in 1849 and the three previous years.

Maiden discovered yet another record: J. P. Verreaux was elected a member of the Tasmanian Society on the 2nd January, 1843 (reported in the *Tasmanian Journal*, ii, 1843, 158, 160; see Maiden, *Journ. Roy. Soc. N. S. Wales*, xliv, 1910, 153). At the latest the Verreaux Brothers must have arrived in that island in 1842. As they are said to have been away from France for five years, this suggests 1842 to 1846 as the probable period of their sojourn in Australia and Tasmania. These dates do not quite coincide with Macquart's dates of publication, the earliest being apparently 1846, the year P. Verreaux had presumably returned to Paris, and seven years before Southey reported the fact.

When redescribing Macquart's *Ochromyia hyalipennis*, Surcouf records "7 femelles originaires de Tasmanie, recueillies par Verreaux en 1846" (*Nouv. Arch. Mus. Paris*, vi, 1914, 85). This would suggest that the Verreaux Brothers were in Australia in 1846, unless this date is not the year of capture, but the year in which the insects were received in Paris and there labelled.

Desmurs (1842) gave an account of J. Verreaux, referring to his appointment as collector to the Natural History Museum, Paris, and stated that he was proceeding to Australia. The date of publication is November, 1842, but the note may have been written long before then.

It would seem that the Verreaux Brothers were in Australia shortly before the abolition of the transportation of convicts, and when various explorations were in progress. The population was more than a quarter of a million. Few opportunities would be available of getting far afield; the nearest centres to Sydney from which they could have worked were limited, the towns then founded being Bathurst (1815), Illawarra (1826), and Newcastle (1831). There is no evidence that they reached these centres, whilst Hobart is apparently the only place from which they worked in Tasmania. Nor would there have been any inducement to go far afield from either Sydney or Hobart, as little collecting had been done in these districts, both of which abounded in material of considerable interest. Localities like "le port du Roi Georges" (Albany), "l'île des Kangeroos," "l'île King" and "le baie Jervis," might have been touched in passing along the coast and no stop of long duration made.

The third point of interest is bound up in the identification of Macquart's material and its range as now known. Of the families so far studied in detail, the results of Ferguson's examination of the Tabanidae seem to be the most complete, as types have been examined where practical. Macquart described ten Tabanids from Tasmania in his fourth supplement, and White (1915) did not recognize any of them from that locality. Five names are placed under *Pangonia*, Ferguson and Hill (1922) recognizing them as follows:

1. *P. rafovittatus* = *Corizoneura chrysopila* Walker, from New South Wales.
2. *P. dorsomaculata* = *Osca*. Not known to Ferguson (1924).
3. *P. violacea* = *Diatomineura violacea*, from New South Wales to Queensland.
4. *P. subappendiculata* = *Diatomineura inflata* Ricardo, from New South Wales.
5. *P. anthracina* = ? *Apocampta subcana* Walker, from New South Wales and Queensland.

Of the four species described as from Tasmania under the genus *Tabanus*, *fraternus* was unknown to Ferguson, *cyaneus* is known from New South Wales

and Queensland, as recorded in the Ferguson manuscripts, and two species, *similis* and *cyano-viridis* remain unmentioned. *Chrysops testaceus* also remains unrecognized.

Apropos of this matter, Ferguson made two statements: "The locality (Tasmania) given by Macquart is probably wrong, other records appear to be all from Sydney" (Ferguson and Hill, Proc. LINN. Soc. N.S.W., xlvii, 1922, 248).—"The habitat (Tasmania) given by Macquart is to be doubted, as in the case of other species described from Tasmania, it is now known that they do not occur in that island but are found in the coastal districts of New South Wales and Queensland" (Ferguson, *Bull. Ent. Res.*, xiv, 1924, 261).

I do not think these remarks made by Ferguson are intended to cover more than the Tabanidae, although there must have been a very strong suspicion in Ferguson's mind that the error in location might be more widely applied; indeed the following bears this out when he dealt with the Syrphidae: "Tasmania: This locality even must be viewed with doubt, as many specimens described from Tasmania in this portion of Macquart's work are now known to be from the mainland" (Ferguson, Proc. LINN. Soc. N.S.W., li, 1926, 181).

In his papers on the Syrphidae, Ferguson deals with seven of the twelve species described as from Tasmania; three of these are mainland forms unknown from that island, and three extend in range from Tasmania to New South Wales, the other one being unrecognized. References to Syrphidae in Ferguson's manuscripts give *Psilota (Chrysogaster) cuprea* as being from New South Wales and Western Australia, whilst *P. (Coeloprosopa) nitida* is considered definitely Tasmanian, and unknown from the mainland.

Dr. C. P. Alexander (1922, p. 587) attributes the name *Tipula nigrithorax* Macquart to a New South Wales species of *Leptotarsis*, although it was originally described from Tasmania. He gives no explanation for so doing, nor does he query the Tasmanian record, presumably taking this to be within the probable range of the species.

Dr. W. S. Patton (1925), who examined the type, identifies *Ochromyia hyalipennis* Macquart (name preoccupied) with the common Sydney blowfly *Calliphora ochracea* Schiner. This conclusion I have since challenged (Hardy, 1926, p. 170) because the Sydney species was quite unknown from Tasmania where the allied *C. nigrithorax* Malloch takes its place. Malloch erroneously placed this species as a form of *ochracea*, which it cannot be, as the male has the face almost as wide as that of the female, whereas on the male of *ochracea* the eyes are contiguous. I now give credence to Patton's findings, despite the fact that Macquart's description fits the Tasmanian form better than that from Sydney.

In my own studies I am forced to come more and more to the conclusion that Tasmania, as a locality, cannot be accepted wherever found in the fourth supplement. In the Asilidae this belief fits remarkably well and it is a basis upon which I am covering the whole of my researches anew. There are quite a number of alterations to be made in this respect. In no way does this affect Tasmania as a locality in other parts of the *Diptères Exotiques*, but it does raise the question as to whether further mistakes have been made in location.

Summary and Conclusions.—I have brought together various factors that have led me to the conclusion that although Macquart published the descriptions of about one hundred and forty species of Diptera in his fourth supplement as being from Tasmania, the majority, if not all, were from Sydney. In so doing I have selected evidence from Ferguson, Alexander and Patton, three authors whose

reputations in their respective branches stand high. Doubtless there are other cases to be found in literature. In my own case, I have hitherto followed the conservative policy of accepting Macquart's locality as being correct unless it can be shown otherwise, but from now onward I will revise this procedure in conformity with the views expressed above. The possibility of this mistake having been made in type locality has been looming larger and larger as the years have gone by, but I do not think there are many entomologists who had conceived the mistake to be as far reaching as I have here expressed it. Nevertheless I think if my view becomes generally accepted, it will lead to quite a number of outstanding species being recognized and synonymy more certainly ascertained. This contribution is therefore offered by me, not with a view to its general acceptance in every detail, but rather as a basis for critical study. The matter is one of importance that I believe to be worthy of wide discussion.

I have to acknowledge my indebtedness to Mr. A. Musgrave of the Australian Museum, Sydney, who has been of considerable aid to me when drawing up this paper, checking references, quotations, etc., and in supplying most of the references, some copied, concerning the Verreaux Brothers. Besides those recorded above, he drew my attention to yet another reference in the *History of the Collections contained in the Natural History Department of the British Museum*, ii, Birds, p. 503, under Verreaux, Maison, referring to yet another brother, Alexis, who died in South Africa.

Also I am indebted to Dr. I. M. Mackerras who has supplied the information from the Ferguson manuscripts as well as aided with criticisms.

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